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AUTHOR Lecomte, Conrad; Bernstein, Bianca L.
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ABSTRACT

Among the variables contributing to the therapeutic relationship between counselor and client, empathy has received much attention in counseling process research. Most of this research has relied on brief segments as a sampling unit; seldom have these segments been compared with entire counseling sessions. Segments of sessions and entire sessions videotaped by 21 counselors were compared using Carkhuff's measurement of empathy. Thirteen sampling procedures of empathy level were systematically compared with ratings of entire sessions to determine whether the empathy judged from segments was similar to that from entire sessions. Data analyses revealed that, in order to have a reasonable approximation to session-based judgments, a sampling unit should be at least a total of 15 minutes from a 60-minute session, distributed in three segments of five minutes taken in each third of the entire session. A subsequent critical analysis of 48 studies based on a brief segment sampling procedure to measure empathy indicated that only seven studies would have adequate sampling units. The findings suggest that empathy as a broad dimension of counselor relationship qualities may be one aspect of counselor interaction for which sampling units are a difficult substitute for entire sessions. (Author/NRB)

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A Comparative Study of Sampling Procedures in counseling process research

Conrad Lecomte, Ph.D., Université de Montréal

Bianca L. Bernstein, Ph.D., Wayne State University

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A Comparative Study of Sampling Procedures in Counseling Process Research

The therapeutic relationship between client and therapist is widely acknowledged as a crucial factor in producing positive outcomes in counseling and psychotherapy (Kiesler, 1973; Luborsky et al., 1971). Among the variables contributing to the therapeutic relationship, empathy has received greater attention than any other process variables in counseling process research (Gladstein, 1977; Lambert et al., 1978). Although the process research literature in counseling is dominated by studies which rely on brief segments as a sampling unit (e.g. Truax, 1963; Carkhuff, 1969), there is very little empirical research reported comparing such brief segments with whole sessions in counseling. In particular, it seems relevant to directly compare segments and sessions using Carkhuff's measurement of empathy which has been frequently used in counseling research.

In the last ten years, a formidable body of counseling process research has employed Carkhuff and Truax's rating scales of basic therapist conditions (Parloff, Waskow and Wolfe, 1978). Accurate empathy has probably been utilized more often in different studies than any of the other dimensions. The measurement of empathy relies on brief segments as a sampling unit. The use of segments to measure process variables as empathy involves the assumption that these segments represent sessions

and therapists and that, in fact, it makes sense to talk about the whole sessions and therapists who provide the necessary and sufficient conditions.

A descriptive analysis of the literature using Carkhuff's measure of empathy indicates a diversity of sampling units in terms of time duration, location, and number of interviews. Forty-eight studies measuring empathy in a helping relationship were identified in the published literature (see table 1). The majority of these studies (29) have used 2 or 3 segments per interview. As for time duration of each segment, it varies from two to five minutes per excerpt. The total time of sampling units of an interview varies from three to sixty minutes. However, the majority of the studies (24) used total time duration of about 6 to 12 minutes per interview. There is a great

Insert table 1 about here

diversity of modalities in the location of the excerpts in the interview. Some studies used a random sampling approach in each third of the interview; others chose the segments in each half, while others go as far as using segments in each fifth or rating at certain precise times. In the studies reviewed, sixteen studies used the random sampling technique, while the other procedures, e.g. rating at some specific times, etc., were employed in a non-systematic and unfrequent fashion.

The number of interviews used is extremely varied from 2 to 1,200. It seems that as the number of excerpts increases in a study, the number of interviews decreases. The time duration of the interviews in the studies reviewed varied between 30 and 60 minutes. Forty-six studies out of forty-eight measured the empathy from audiotapes. Finally, it is important to underline the fact that many studies didn't specify important information regarding the sampling process; for instance 10 authors didn't mention the number of excerpts that they utilized in their studies.

We can conclude from this review that a researcher planning a counseling process study does not yet have available, clear and valid criteria for the measurement of empathy. What is available is a diversity of sampling units with a variety of number of interviews. How many segments should be used? What length should each segment have? At what times should the segments be taken to be representative of the whole session? These questions if not clearly answered may invalidate a large body of research published in counseling research.

One wonders why is there such a diversity in the sampling procedures used in counseling process research. It seems like no study has yet addressed itself directly to this arduous and complex methodological task. Carkhuff (1969) based on Kiesler, Mathieu and Kleins (1964) study, recommended to utilize optimally three excerpts of two minutes each in each third of the interview with a client-therapist-client

interaction. On the other hand, Truax and Mitchell (1971) suggest that researchers use two excerpts of three minutes each, chosen from the mid'le of the second and last thirds of the interview. All of Carkhuff and his colleague's work and recommendations are based on Kiesler, Mathieu and Klein's study. The designs and results of that study leave major questions unanswered. In that study, comparing segments of 2, 4 8 and 16 minutes on Gendlin's concept of "experiencing", they found no significant differences between the different lengths of segments used. It is important to observe that this study doesn't indicate if these time samples represent an accurate and valid sample of the whole session. The authors didn't compare the segments with whole sessions. Moreover, they only studied the client's experiencing which is rather different than the therapist's level of empathy. In their 1965 study, Kiesler, Klein and Matheiu compared five segments of eight minutes chosen at egal time distance in each interview on client's level of experiencing. They found that the client's level of experiencing does vary during an interview. So it seems that the location of segments could be important in the measure of empathy. Similarly, Karl and Abeles (1969) conducted a study comparing 5 excerpts of 10 minutes on a variety of process variables like dependence, hostility of the client, and the avoidance approach behaviors of the therapist; and they found that the content of an interview varies according to the time measured in the interview. Finally, Mintz

and Luborsky (1971) were the first to really examine the problems of segments versus whole sessions in the study of process variables. They conducted a comparative study of three four minutes segments at some specific times with whole sessions on a number of psychoanalytically oriented variables. They concluded that reliance upon brief segments misses an important aspect of patient-therapist interaction.

Considering the diversity and variety of sampling procedures used in the measurement of empathy without empirical evidence (see table 1), it seems relevant to try to answer some basic questions concerning that issue. Can we use sampling units in the measurement of client-therapist interactions? What is a valid sampling unit in the measure of empathy? Using the numerous sampling methods used in the literature, we decided to compare thirteen sampling modalities with whole sessions (see table 2). Specifically, in each sampling procedure selected the following aspects were specified: number of segments, time duration of segment, location, total time duration.

Insert table 2 about here

Method

Sample. Based on recent studies demonstrating that non-verbal cues account for an impressive part of the message variance (Haase and Tepper, 1972) twenty-one beginning counselors videotaped a total

of 41 sessions. The present sample consisted of twenty-one initial sessions, twelve middle therapy sessions: the fifth session, and eight advanced therapy sessions: the ninth or tenth session. The counselors were all ending master students in a counseling psychology program. The twenty-one initial sessions varied from 31 to 45 minutes while the other twenty minutes varied from 60 to 67 minutes. In order to standardize the rating procedures, thirty minutes of the initial twenty-one interviews and 60 minutes of the other twenty sessions were retained for rating. All the counselors had an eclectic orientation. Nine were men and 12 were women. Each client was seen once a week for about a year. Nine clients were men and 24 were women. Ages ranged from 19 to 52 years; most clients were in their twenties or early thirties. About two-thirds were middle-class, the rest somewhat lower. Clients were not classified as psychotic. Diagnoses were about equally divided among interpersonal problems, anxiety, depressive and hysterical neuroses, and specific phobias.

Ratings. Accurate empathy was measured on a five point rating scale as defined and validated by Carkhuff (1969 b). This rating scale was retained because of its frequent occurrence in many studies (see table 1). Two trained research assistants rated the therapist's empathy. Reliability was assessed by means of Pearson product-moment correlation at three times with standard tapes (Raskin, 1965). Reliability was assessed before the actual rating of the videotapes, at the middle

point of the rating process and close to the end. Reliability coefficients ranged from .70 to .90 with a median of .81. Each rater rated an equal number of tape segments from all counselors. A 30% overlap was used.

Selection of the segments. In order to proceed to a systematic comparison of various sampling units the following procedures were done: a) before the rating of the videotaped sessions, each interview was viewed by another research assistant who identified exactly with a code number each client-counselor interaction and noted the time duration of each interaction. Consequently, a complete list of all client-counselor interactions was completed with a code number specifying the exact location and time duration of each interaction for the 41 sessions; b) using this list of all client-counselor interactions and a random numbers table, it became possible to select at random the required segments for the systematic study of each of the thirteen sampling methods (see table 2) with whole sessions.

Results

In order to verify the degree of representativeness of each sampling method, each sampling unit was compared with whole session. T test analyses were conducted to compare the empathy mean score of each sampling method for each interview with the respective mean score of whole sessions. This procedure was conducted for the twenty sessions of 60 minutes and for the 21 sessions of 30 minutes. The t tests were reported at the three levels .01, .05, and .10. The more a method has

significant differences, the less it is representative of the whole session. It seems relevant to consider .10 significance level as important information in the complex question of representativeness. The summary table 3 indicates the number of significant differences with whole sessions on the twenty interviews of 60 minutes. It is suggested that a method presenting more than one significant difference with whole session (more than 5% of sampling error) should be considered inadequate. At the $p = .05$ (see table 3), the first two sampling methods indicate at least two significant differences with the mean scores of whole sessions. Thus, it seems that to achieve adequate representativeness a minimum of two segments of three minutes

Insert table 3 about here

each taken in each half of the interviews are required to measure empathy. If one considers the .10 level of significance as a more conservative indication of representativeness, then the first eight methods would have to be rejected as non-representative of whole sessions. These data suggest that choice of adequate sampling unit should have at least 3 segments of 5 minutes each taken in each third of the session. Methods 9, 10, 11, 12, and 13 have just one or less significant differences out of twenty interviews which is less than 5% of sampling error.

A serie of t tests were also conducted to determine the most adequate sampling unit for the thrity minutes sessions which were the twenty-one initial sessions. Results indicate no significant differences in any method. Thus it seems that any three brief segments taken in each third of an interview are adequate research units even at $p = .10$. On the other hand, it is interesting to observe that the mean score of accurate empathy is relatively similar for both helping situations but that the standard deviation is larger in the 60 minutes session (table 4).

Insert table 4 about here

Discussion

A very substantial part of the literature in the area of counseling and psychotherapy process is based on ratings of variables using brief segments of therapy (see table 1). The reference is, of course, to the substantial body of Rogerian-oriented research (for reviews, see Carkhuff, 1969; Lambert et al., 1978). Table 1 indicates 48 studies using different brief segments as indicators of whole sessions. Results of our study indicate that a conservative and reliable sampling unit should be at least 15 minutes out of 60 minutes, distributed in 3 segments of 5 minutes taken in each third of the session. These results are consistent with Mintz and Luborsky (1971) showing that three segments of 4 minutes were not equivalent to whole sessions in the measure

of process variables. In a sense, it might suggest that an adequate sampling unit has to describe adequately the interactional character of counseling. Based on these results, it can be seen that only 7 studies out of 48 have utilized 15 minutes sampling units to measure empathy. These results suggest some perplexing and disturbing consequences for a large body of published research regarding counseling outcomes, process studies, supervision studies, etc., using inadequate sampling units to measure empathy. These findings may invalidate much of this program of research.

On the other hand, in the thirty minutes sessions which were initial sessions, all the methods seem adequate. Considering the smaller standard deviation of empathy scores in the thirty minutes session, it is plausible to assume that it became easier to find an adequate sampling unit. Thus, it would seem that empathy score would vary less in a beginning interview of 30 minutes than in middle or ending counseling sessions. This finding is given support to Gurman's study (1973) showing that therapists were extremely variable in empathy both within hours and between hours. These results might also suggest that it is possible to use relatively brief segments to adequately represent whole sessions in a thirty minutes initial counseling session. Thus, it would appear that counseling process research using brief segments would be of some significance for initial counseling sessions of thirty minutes duration where empathy level seems to be less variable than in later sessions of 60 minutes.

The data of this study suggest that empathy as a broad dimension of counselor relationship qualities may be one aspect of counselor interaction for which sampling units are a difficult substitute for whole sessions. In a sense, empathy seems to be intrinsically related to the heart of the responsive interactional process between counselor and client, and thus complex to grasp with a segment-based rating. The results of study warrant further study on the validity of sampling units used in the measurement of numerous process variables. Clearly, the data of this study which is the first empirical comparison of various segments to entire sessions seriously question the validity of a large body of published process research based on inadequate sampling units (e.g. 37 studies out of 48, see table 1).

Table 1

Summary of sampling methods used to rate facilitative conditions

Study	Objectives of the study	Number of sessions	Recording procedures	Sampling methods:			
				Total time	Number of segments	Time of segment	Location
Kratochvil (1969)	Effects of training in E, G, R, S, SD on interpersonal functioning.	20 (ind.)	audio	9 min.	3	3 min.	Random
Pierce and Schauble (1970)	Individual supervision and training in E, UPR, G, C.	90 (ind.)	audio	9 min.	3	3 min.	Beginning, middle, end.
Krutz and Grummon (1972)	Comparison of 6 measures of E	31	audio	9 min.	3	3 min.	In 1/3, 2/3, 3/3
McNally and Grummond (1974)	Validation of Carkhuff's scales of E, G, R	52 (ind.)	audio	9 min.	3	3 min.	Random
Martin, Carkhuff and Berenson	Facilitative conditions (E)	32 (ind.)	audio	12 min.	3	4 min.	Random
Carkhuff, Kratochvil and Friel (1968)	Effects of training in E, R, G, SD	54 (ind.)	audio	12 min.	3	4 min.	Random
Hansen, Moore and Carkhuff (1968)	Raters vs client perception of E, UPR, G	70 (ind.)	audio	12 min.	3	4 min.	Beginning, middle, end.
Mintz and Luborsky (1971)	Segments versus whole for psychoanalytical process variables.	60 (ind.)	audio	12 min.	3	4 min.	In 10-14, 23-27, 35-39 min.

Table 1

Summary of sampling methods used to rate facilitative conditions

Study	Objectives of the study	Number of sessions	Recording procedures	Sampling methods:			
				Total time	Number of segments	Time of segment	Location
Cannon and Pierce (1968)	Experimental manipulation of E, G, R, SE	6 (ind.)	audio	45 min.	15	3 min.	Whole session
Friel, Kratochvil and Carkhuff (1968)	Effect of SE manipulation on E, UPR, G, R,	32 (ind.)	audio	45 min.	9	5 min.	3 in each third
Berenson, Carkhuff and Myrus (1966)	Interpersonal functioning and training in E, UPR, G	72 (ind.)	audio	N/A	N/A	N/A	N/A
Alexik and Carkhuff (1967a)	Client SE and levels of E	2 (ind.)	audio	N/A	N/A	N/A	N/A
Truax, Wargo and Silber (1966)	Effects of high levels of E, W on delinquents	96 (ind.)	audio	N/A	2	N/A	N/A
Banks, Berenson and Carkhuff (1967)	Race and facilitative conditions (E) in initial interview	40 (ind.)	audio	N/A	N/A	N/A	Random
Pagell, Carkhuff and Berenson (1967)	Level of therapists on facilitative conditions and clients functioning	N/A (ind.)	audio	N/A	N/A	N/A	Random

Table 1

Summary of sampling methods used to rate facilitative conditions

Study	Objectives of the study	Number of sessions	Recording procedures	Sampling methods:			
				Total time	Number of segments	Time of segment	Location
Bozarth and Krauft (1972)	Reliability of E^1 scale	1200 (ind.)	audio	3 min.	1	3 min.	In 2/2
Caracena and Vicory (1969)	Correlation of E with process variables	22 (ind.)	audio	3 min.	1	3 min.	In 2/2
Dickenson and Truax (1966)	Therapeutic conditions: (E, G, W): outcome study.	72 (group)	audio	4 min.	1	4 min.	In 2/3
Truax (1963)	Correlation of E with positive outcome	358 (ind.)	audio	4 min.	1	4 min.	N/A
Truax, Carkhuff and Kodman (1965)	Correlation of facilitative conditions (E, W, R) with therapeutic outcomes	96 (group)	audio	6 min.	2	3 min.	In 2/3
Truax (1966)	Segments vs whole interview: E, R, W.	192	audio	6 min.	2	3 min.	In 2/2

Table 1

Summary of sampling methods used to rate facilitative conditions

Study	Objectives of the study	Number of sessions	Recording procedures	Sampling methods:			
				Total time	Number of segments	Time of segment	Location
Truax, Wargo and Frank (1966)	Correlation of E, R, W with positive therapeutic outcome	120 (ind.)	audio	6 min.	2	3 min.	N/A
Bozarth and Grace (1970)	Objective ratings and client perception of E, R, W.	15 (ind.)	audio	6 min.	2	3 min.	In 1/3 3/3
Truax, Wittmer and Wargo (1971)	Relation of E, R, W with therapeutic outcomes	346 (group)	audio	6 min.	2	3 min.	In 2/3 3/3
McWhirter (1973)	Correlation of E, R, W with Rel. Inventory	45 (ind.)	audio	6 min.	2	3 min.	In 2/3 3/3
Carkhuff and Banks (1970)	Training in E, R, S VS races and generations	192 (ind.)	audio	6 min.	3	2 min.	In 1/3, 2/3 3/3
Beutler, Johnson, Neville, Workman, Elkins (1973)	Correlation of E, W, G, with A-B therapisted	49	audio	6 min.	3	2 min.	In 1/3, 2/3 3/3

Table 1

Summary of sampling methods used to rate facilitative conditions

Study	Objectives of the study	Number of sessions	Recording procedures	Sampling methods:			
				Total time	Number of segments	Time of segment	Location
Carkhuff and Burstein (1970)	Comparison of objective ratings of E, G, R, SD with client ratings.	24 (ind.)	audio	6 min.	3	2 min.	Random
Carkhuff and Truax (1965)	Program evaluation: facilitative conditions.	32 (ind.)	audio	8 min.	2	4 min.	Random
Van Der Veen (1967)	Relationships between E, U P R, G and therapeutic outcome.	75 (ind.)	audio	8 min.	2	4 min.	In 1/3, 2/3
Fish (1970)	Relationships between E and emotions	43 (ind.)	audio	8 min.	2	4 min.	Random
Garfield and Bergin (1971)	Relationships between E, UPR, G and therapeutic outcome.	121 (ind.)	audio	8 min.	2	4 min.	In 1/2, 2/2
Gurman (1973)	Effects of mood on therapist levels of E, UPR, G.	24	audio	8 min.	2	4 min.	In 1/2, 2/2

Table 1

Summary of sampling methods used to rate facilitative conditions

Study	Objectives of the study	Number of sessions	Recording procedures	Sampling methods:			
				Total time	Number of segments	Time of segment	Location
Truax, Altmann, Wright, Mitchell (1973)	Facilitative conditions (E, G, W), and therapeutic outcomes	32 (ind.)	video	15 min.	3	5 min.	In 20-25, 30-35, 40-45 min.
Altmann (1973)	Facilitative conditions in initial interview.	19 (ind.)	audio manuscript	15 min.	3	5 min.	In the beginning middle, end
Gurman (1973)	Therapist mood before interview and E, UPR, G.	51 (ind.)	audio	20 min.	5	4 min.	In 1/5, 2/5, 3/5, 4/5, 5/5
Muehlberg and Drasgrow (1969)	Comparison of therapist levels of E, HPR, R, S.	3 (ind.)	audio	30 min.	10	3 min.	N/A
Alexik et Carkhuff (1967b)	Client self exploration and facilitative conditions	8 (ind.)	audio	60 min.	15	4 min.	Whole session

Table 1

Summary of sampling methods used to rate facilitative conditions

Study	Objectives of the study	Number of sessions	Recording procedures	Sampling methods:			
				Total time	Number of segments	Time of segment	Location
Kratochvil, Aspy and Carkhuff (1967)	Level of therapists on facilitative conditions and clients functioning effects on therapists	N/A	audio	N/A	N/A	N/A	Random
Kratochvil, Aspy and Carkhuff (1967)	Effects of therapists levels of E on client functioning	56 (group)	audio	N/A	2	N/A	Random
Pierce, Carkhuff and Berenson (1967)	Supervisors' level effects on counselors in training (E, UPR, G).	34 (ind.)	audio	N/A	N/A	N/A	Random
Berenson and Mitchell (1968)	Confrontation and facilitative conditions (E, R, S, G)	45 (ind.)	audio	N/A	N/A	N/A	Random
Holder (1968)	Correlation between levels of functioning and number of topics	18 (ind.)	audio	N/A	N/A	N/A	Random

Table 1

Summary of sampling methods used to rate facilitative conditions

Study	Objectives of the study	Number of sessions	Recording procedures	Sampling methods:			
				Total time	Number of segments	Time of segment	Location
Bergin and Solomon (1968)	E and personality and performance correlates	53 (ind.)	audio	N/A	1	N/A	All the second third
Bergin and Jasper (1969)	Correlation between E and therapist	48 (ind.)	audio	N/A	N/A	N/A	In 1/3
Carkhuff and Griffin (1970)	Selection and training in facilitative conditiona	13 (ind.)	audio	N/A	N/A	N/A	Random
Hill (1974)	Comparative perceptions of raters, therapists and clients of E and SE	48 (ind.)	audio	N/A	3	N/A	N/A

[1]Key:
E: empathy
UPR: unconditional positive regard
R: respect
G: genuiness
W: warmth
C: confrontation
S: specificity
SD: self disclosure
SE: self exploration
NA: not available

Table 2

List of sampling methods tested

Method	Sampling units			
	N of segments	Segment duration	Location	Total duration time
1	3 interactions (th.-cl.)	variable	1/3, 2/3, 3/3	variable
2	1	3 min.	random	3
3	2	3 min.	1/2, 2/2	6
4	3	2 min.	1/3, 2/3, 3/3	6
5	3	3 min.	1/3, 2/3, 3/3	9
6	3	3 min.	random	9
7	3	4 min.	1/3, 2/3, 3/3	12
8	4	3 min.	1/4, 2/4, 3/4, 4/4	12
9	3	5 min.	1/3, 2/3, 3/3	15
10	5	3 min.	1/5, 2/5, 3/5, 4/5, 5/5	15
11	3	5 min.	beginning, middle, end	15
12	3	begin. (5 min.) middle (10 min.) end (5 min.)	beginning, middle, end	20
13	1	10 or 20 min.	all of the second third	10 or 20

Table 3

Number of significant t tests of 13 sampling units vs whole sessions for 20 sessions of 60 minutes

Method	Sampling units: number, duration and location of segments	.01	.05	.10
1	3 interactions (th.-cl.): 1/3, 2/3, 3/3	3	5	5
2	1 exc. of 3 min.: at random	1	2	3
3	2 exc. of 3 min.: 1/2, 2/2	-	1	3
4	3 exc. of 2 min.: 1/3, 2/3, 3/3	-	1	3
5	3 exc. of 3 min.: 1/3, 2/3, 3/3	-	1	3
6	3 exc. of 3 min.: at random	-	1	3
7	3 exc. of 4 min.: 1/3, 2/3, 3/3	-	1	2
8	4 exc. of 3 min.: 1/4, 2/4, 3/4, 4/4	-	1	3
9	3 exc. of 5 min.: 1/3, 2/3, 3/3	-	-	1
10	5 exc. of 3 min.: 1/5, 2/5, 3/5, 4/5, 5/5	-	-	1
11	3 exc. of 5 min.: beginning, middle, end	-	-	1
12	3 exc.: beginning (5 min.), middle (10 min.), end (5 min.)	-	-	1
13	1 exc. of 10 or 20 min.: all of the 2/3	-	-	-

Table 4

Empathy mean scores and standard deviations for the two helping situations

Session modalities	Mean	Standard deviation
30 minutes initial session	2.46	.61
60 minutes session	2.63	.78

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